Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Carriage of the Transmissions	)	CS Docket No. 98-120
of Digital Television Broadcast Stations	)	
	)	
Amendment of Part 76	)	
of the Commission's Rules	)	

REPLY COMMENTS OF CIRCUIT CITY STORES, INC.

December 22, 1998

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Summary

Digital television will expand the variety of television services available to consumers. However, the benefits that digital television has the potential to offer will only be realized if DTV achieves broad acceptance. Because a significant portion of the American public receives broadcast programming through a cable system operator, it is clear that the Commission must take steps to ensure that consumers that subscribe to cable services are able to receive such signals without having to overcome unnecessary financial or technological barriers.

Circuit City believes that the keys to the "must carry" issues under consideration in this proceeding are the speed, nature, and consumer acceptance of the transition to digital broadcasting. Success will depend on the Commission, and the Congress, successfully weaving together a variety of regulatory and legislative solutions.

First, the Commission should adopt DTV must carry rules that ensure that all DTV broadcast signals are delivered without degradation. Circuit City understands that cable companies may be able to optimize the use of their resources by using modulation and compression techniques. However, such techniques cannot be allowed if they cause degradation to the DTV signal delivered to subscribers or cause subscribers to have to secure any proprietary or customized equipment or to pay any additional fees to the cable company in order to receive the signals subject to these techniques.

As part of their obligation to deliver the complete DTV signal, cable companies must also not be allowed to strip PSIP or other channel position protocols or USER information that broadcasters include in their DTV signal, as this information is a necessary part of the broadcaster's signal and because such protocols will make it easier for consumers to locate and enjoy a broadcaster's digital signal.

In addition, due to the important role that electronic programming guides play in allowing viewers to learn about available programming, cable system operators must not be allowed to become the sole source for such services. Broadcasters, independent programming guide companies, internet service providers and equipment and software manufacturers compete in assisting consumers to obtain programming data. Circuit City urges the Commission to adopt rules that prevent cable system operators, through standard specifications or otherwise, from exercising undue control over consumers' ability to use unaffiliated programming guides.

Second, there is no need for the FCC to impose equipment-based standards to aid DTV penetration. Digital technology and industry standards are still evolving. However, the Commission must not view this continual change as a reason for adopting rigid technology-based standards. Instead, the Commission must give the marketplace the freedom to respond to new consumer demands.

In this vein, the FCC should not mandate the establishment of interface standards between set-top boxes and DTV receivers. Circuit City believes that while IEEE 1394 may represent an interface option, it is not the only solution for an interface between Navigation Devices and digital displays. Modular approaches will also be pursued in the marketplace in an effort to minimize the effects of the rapid obsolescence that is common with digital electronics and to preserve consumer investment in analog component display and other electromechanical devices. In light of these and other factors, Circuit City believes that the success of DTV will turn on the use of high-bandwidth component analog interfaces, such as R,G,B and Y, Pr, Pb.

Circuit City believes that the Commission should also strive to avoid adopting rules that could interfere with copy protection solutions that are better resolved through copyright legislation that addresses recording and playback devices. Congress has the expertise and

authority to make balanced judgments as to the application of copyright principles and technology policy to consumer electronics devices by involving the private sector in developing a consensus watermarking technology and by requiring that new generations of recording devices must read and respond to such watermarkings in appropriate ways. Nonetheless, the FCC should be aware of the issues associated with copy protection in general and watermarking systems specifically and should encourage Congress to adopt legislation that balances the interests of content proprietors and users in light of telecommunications and intellectual property issues, rather than through any regulatory action by the Commission.

Finally, the Commission should forbear from imposing specific feature or performance requirements on consumer electronics. For example, there is no basis for rules that require that manufacturers include, and consumers use, "A/B switches" in DTV equipment as a means for ensuring access to DTV. Because cable system operators would be given the sole power to decide which stations must be accessed over the air using such switches, this option lacks competitive neutrality. Instead, consumers have the already-existing option to purchase equipment with A/B switches should they choose to receive DTV broadcast signals over the air. The FCC must also reject requests that the agency try to define what constitutes a "cable-ready" device. Such an approach would confuse consumers and stifle technology. Lastly, the Commission must not mandate technical standards aimed at improving equipment performance based on incomplete or unrepresentative test data on DTV receiver performance. To the extent that consumers experience problems with receivers, such problems should be addressed on a system by system basis.

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REPLY COMMENTS OF CIRCUIT CITY STORES, INC.

Pursuant to § 1.415[1] of the rules of the Federal Communications Commission ("Commission" or "FCC"), Circuit City Stores, Inc. ("Circuit City"), by its attorneys, respectfully submits its Reply Comments in response to the Notice of Proposed Rulemaking in the above-mentioned proceeding.[2]

Circuit City is the largest retailer of branded consumer electronics in the United States. Circuit City sells consumer electronics products such as TV's, VCRs, digital video disk players, direct broadcast satellite ("DBS") and audio systems, and personal computers and related software and accessories. The transition to digital transmission of television broadcasts is only one aspect of business and technical revolutions encompassing all of these products. The Commission's role is accordingly crucial yet delicate.

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1 47 C.F.R. § 1.415.

2 *In the Matter of Carriage of the Transmissions of Digital Television Broadcast Stations, Amendment of Part 76 of the Commission's Rules*, CS Docket No. 98-120, *Notice of Proposed Rule Making* (Rel. July 10, 1998) (the "*Notice*").

Comments of some participants reflect, in our view, notions that would have the Commission adopt rules that would chill optimal deployment of digital television. Circuit City focuses its reply comments on discussing issues raised by such ideas, as well as on identifying steps that the Commission does indeed need to take to protect the DTV transition from external limiting influences.

I. Whether Or Not The FCC Imposes A Must-Carry Mandate, It Must Assure That MVPDs Cannot Chill Competitive Alternatives

The FCC faces the task of serving the needs of those consumers purchasing DTV equipment during the initial transition stages, while also leaving the industry room to make adjustments to equipment as technology and consumer demand evolve. Some steps must be taken to protect this crucial transitional stage, before consumers have access to a wide range of alternatives.

One threat to this transition lies in the ability of multichannel video programming distributors ("MVPDs") to limit consumer choice. As we and others have noted, approximately two-thirds of American homes rely on cable television to acquire broadcast signals.[3] Consequently, cable operators stand astride the initial flow of DTV broadcasts to consumers. Considerations in addition to strict must-carry issues will determine whether such operators effectively restrict this flow.

A. DTV Signals Must Be Delivered Without Degradation

To the extent that a cable system delivers DTV signals, whether pursuant to must-

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[3] *See, e.g.*, Morgan Murphy Stations at 5.

carry or retransmission consent, it is imperative that the DTV signals be delivered to subscribers without degradation.

Circuit City understands that cable companies may be able to optimize the use of their resources by using modulation and compression techniques.[4] The FCC should not discourage these activities. However, such techniques cannot be allowed if they cause degradation to the DTV signal delivered to the subscriber. In addition, the use of such techniques should not cause subscribers to have to secure any proprietary or customized equipment from the cable company or its affiliates or to pay any additional fees in order to receive the signals subject to these techniques.

As we stated in our Comments, in Circuit City's view the transition to DTV will succeed based on consumer exposure to HDTV programming. If cable operators are to be able to filter the presentations offered by broadcasters, so as to diminish their impact on consumers, the entire process – as well as the efficiency of the marketplace – is put at risk.

B. PSIP And USER Data Should Be Preserved

Circuit City agrees with the comments of the Association for Maximum Service Television and others that cable companies should not be allowed to strip PSIP or other channel position protocols or USER information that broadcasters include in their DTV signal.[5] This information is included as a necessary part of the broadcaster's signal and does not represent ancillary or supplemental services. Because such protocols will make it easier for those with digital televisions to locate a broadcaster's digital signal and will thus increase the likelihood that such consumers will enjoy the benefits of digital television

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4 *See, e.g.*, Comments of Adelphia Communications Corp., *et al.*, at 31.

5 *See, e.g.*, Comments of MSTV at 32; Comments of ALTV at 73; Comments of NBC at 6.

with minimal inconvenience or confusion, Circuit City believes that cable system operators should not be allowed to block, diminish or otherwise alter these elements of a DTV signal.

C. Competition In Various Means Of Providing Electronic Programming Guides Should Not Be Restricted By Technical Or Other Means

Electronic programming guides are becoming an increasingly valuable means by which viewers learn about what programming is available to them. Cable system operators have recognized this value and have begun offering more advanced program guides to their subscribers. Circuit City supports this effort because it will make it easier for consumers to locate new digital programming, which will in turn speed up the full transition to digital television. However, cable system operators are not the only suppliers of electronic programming guides.

Broadcasters, independent programming guide companies, internet service providers and equipment and software manufacturers compete in assisting consumers to obtain and sort programming and data options. Both devices and services represent competitive alternatives to Navigation Devices to be provided or licensed, and services to be offered, by cable operators. These operators, separately or through standards initiatives, may be tempted to place such competitive alternatives at an undue and unnecessary disadvantage. Indeed, in addition to complaints previously made to the Commission by vendors of such services, there is evidence that some local systems have filtered the Vertical Blanking Interval so as to disable other guide services, to which some models of TVs are designed to be responsive, that otherwise would be provided to consumers without charge. Circuit City urges the Commission to adopt rules that prevent cable system

operators, through standard specifications or otherwise, from exercising this sort of undue control over consumers' ability to use programming guides and other device features or services offered by unaffiliated entities.[6]

II. There Is No Need For The FCC To Mandate Equipment-Based Standards In The Aid Of DTV Penetration

It is easy for parties to argue that digital technology is in a state of flux and that, as a result, the Commission must adopt technology-specific standards. Digital technology and industry standards are still evolving. However, they are not "behind," as these comments would suggest. Instead, digital television technology is undergoing what all technology faces – constant improvement, refinement and diversification. This is normal and the Commission and industry must become accustomed to this reality if the public is to enjoy the full benefits of digital technology.

A. No Steps Are Necessary To Promote The Use Of IEEE 1394

Some comments suggest that the FCC should establish standards for an interface between set-top boxes and DTV receivers. These comments focused on IEEE 1394 as the most obvious solution to both immediate and long-term interface issues.[7] Circuit City believes that while 1394 may represent an interface option, it is by no means the only solution for an interface between Navigation Devices and digital displays, and is far from an optimal solution.[8] It is also too late for 1394 to be implemented in the first generation of DTV receivers.

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6 While Circuit City did not believe that such services comprise "Navigation Devices" for purposes of CS Docket 97-80, it does believe that the concerns over EPG issues are important considerations in the transition to DTV and thus raise issues in this "DTV Must Carry" Docket.

7 *See, e.g.*, Comments of NAB, Attachment G.

8 *See, e.g.*, Comments of MSTV at 42

As Circuit City pointed out in its comments, the Commission took a critical step in the Navigation Device proceeding by allowing all navigation features and functions to be built into receivers with no need to rely on an external interface.[9] Moreover, the Commission recognized that the "digital engine" in a cable Navigation Device is the same "engine" needed to convert a broadcast DTV signal for viewing. The Commission's approach to the competitive availability of Navigation Devices – reliance on the OpenCable standard that will allow a conditional access module, or "POD," to enable a receiver to act as a Navigation Device without the need for any interface between the conditional-access enabled device and the display – provides one solution in the DTV context because it eliminates copy control concerns and protects consumer investment in expensive electronic equipment. More modular approaches, however, will also be pursued in the marketplace.

Where a manufacturer's design approach contemplates a separate electronics module and display, the IEEE 1394 digital serial interface with copy control techniques will be available. However, this solution has certain drawbacks. As noted by Adelphia and Thomson Electronics, first generation digital television sets on sale now do not have a 1394 interface jack and cannot be retrofitted.[10] In addition, this configuration creates redundancy because it requires that manufacturers include an MPEG decoder and decryption capability in the display device even when the same electronics are included in a navigation box. Since progress, and hence obsolescence, occurs in digital electronics

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[9] Comments of Circuit City at 8.

[10] *See, e.g.*, Comments of Adelphia Communications Corp., *et al.*, at 24-25; Comments of Thomson Consumer Electronics at 23.

more rapidly than in display and mechanical devices, the persistence of embedded electronics in displays could serve as an obstacle to progress.

In light of these and other factors, to protect consumers' investments in DTV display equipment, Circuit City believes that, in the long term, the success of DTV will turn on the use of high-bandwidth component analog interfaces, such as R,G,B and Y, Pr, Pb. While home networks should and will be digital, the driving signals for DTV display devices will remain analog component. For both CRT and flat panel displays, at some point the DTV signal must be converted to the analog component R,G,B picture tube inputs. If DTV devices are to be linked exclusively by digital interfaces, decoding, decryption and conversion steps must occur within the DTV display device. As display and electro-mechanical devices remain exempt from Moore's law[11] and are relatively expensive, one should avoid relying on such integrated circuitry in display devices, as the digital circuitry will be obsolete (and may become a barrier to interoperability) long before the lifetime of the display is over.

The essential and primary means of Navigation Device transmission to DTV displays will remain R,G,B or a CE variant such as Y,Pr,Pb. This suggests that the end-user platform end of the Navigation Device should have primary responsibility as the digital home network interface, receiving a digital network signal over an interface such as IEEE 1394 and decoding and converting the video signal to analog component video for display.

This high-bandwidth component solution is superior to other solutions because it is

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[11] Moore's Law refers to the phenomena whereby computer chip processing capability doubles every 12 to 18 months.

built on the premise that digital circuitry is susceptible to becoming obsolete over a short period of time. This phenomenon will be driven by the same factor that causes computers to be considered "old" after only a couple of years – digital circuits increase in speed and come down in price by an appreciable margin every 12 to 18 months. The Commission's challenge in the digital television context is to take steps that will protect consumer investment in expensive electronic equipment by separating this equipment from other components that are reliant on digital circuitry.

B. Copy Protection Issues Must Be Addressed Via Legislation

Congress struck a balance between the Commission's authority to regulate program delivery as part of its authority over broadcast entities and MVPDs. However, Congress also left to copyright law the ultimate job of protecting content provider interests. Along this line, Circuit City believes that the Commission should strive to avoid adopting rules in this proceeding that could interfere with copy protection solutions that are better resolved through copyright legislation.

The purpose of copy protection is not to control display; it is to control the copy status of programming with respect to recording devices, and the playback of recordings that may have been made in contravention of copy protection encoding and response rules. The most efficient approach, accordingly, will focus on the implementation of such rules in recording and playback devices, rather than in the function of displays.

Given the crucial nature of analog component interfaces, a fair resolution of copy protection issues (including reasonable accommodations for customary private, noncommercial recording by consumers) is critical to multi-industry support. With respect to broadband analog component interfaces, it appears that the only practical

solution is implementation of a "watermark" system in digital content that survives several generations of conversion between analog and digital formats, digital video compression and decompression, and digital video signal processing.

For such a system to be regarded as reliable by content providers, recording devices capable of making digital recordings of watermarked material would have to read and respond to particular watermarks, and re-mark the status of copied works, according to reasonable rules as to when home copying should be allowed. As there is nothing particular about these generic paths (such as encryption or authentication) that may prevent recording absent such affirmative compliance, the system would have to be supported by legislation.

While the Commission should properly be aware of the issues associated with copy protection in general and watermarking systems specifically, regulation over the ability of recorders to read and respond to watermarking is better left to Congress. This is particularly so where the objects of the regulation are recording and playback devices rather than DTV displays. Congress has the expertise and authority to make balanced judgments as to the application of copyright principles and technology policy to consumer electronics devices by involving the private sector in developing a consensus watermarking technology and by requiring that new generations of recording devices must read and respond to such watermarkings in appropriate ways.

C. The Use Of A/B Switches Should Not Be Mandated

In support of their position that must-carry is not necessary, cable system operators and cable programmers argue that cable system subscribers can be expected to rely on

"A/B switches" to bring terrestrial broadcast antennas back into use by consumers.[12] Consequently, they argue that the FCC should simply mandate that manufacturers include A/B switches in their equipment.[13]

Despite such claims,[14] relying on this solution as a means for ensuring access is misplaced. It would be inherently unfair to certain program providers if consumers were required to take an additional step to receive their programming if the same step is not required to receive other programming.[15] While it might be argued that this additional step could allow cable subscribers to receive a greater variety of programming, this argument fails to consider that the cable companies and their affiliates would disproportionately benefit from such a rule.

Cable companies will benefit directly from such a rule to the extent that they receive payment for programming that the subscriber can access without having to use an A/B switch. For example, as between carrying a broadcast digital television signal and a second subscription channel, the cable company will be hard-pressed to give up the revenues that it would earn from the subscription service in favor of carrying a Spanish language broadcast channel because the revenues from the subscription channel will always be more significant. Subscribers that want to receive the Spanish broadcast signal will be subject to the additional inconvenience of having to rely on an A/B switch. This choice would not be so problematic if the cable company could decide in a neutral fashion

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12 *See, e.g.*, Comments of Ameritech New Media at 27; Comments of Lifetime Entertainment Services at 11.

13 *See, e.g.*, Comments of Adelphia Communications Corp., *et al.*, at 33 n.84; Comments of Sinclair Broadcast Group, Inc. at 8.

14 *See, e.g.*, Comments of the International Channel, *et al.*, at 17.

15 Especially programming that allows the cable company to directly or indirectly increase its own profitability.

which programmer should be burdened. Financial considerations and bottleneck control over an important delivery mechanism make such neutrality nearly impossible.

Moreover, because the law requires that consumers subscribe to basic cable as a condition for receiving other cable programming services, the notion that consumers could be required to rely on an A/B switch/antenna configuration is unrealistic. If a cable subscriber is required to purchase a television with an A/B switch and goes to the trouble of installing an antenna, it would patently unfair to require the same consumer to pay $10 to $15 per month for access to broadcast services that it can receive over-the-air for the sole privilege of being able to also receive whatever programming the cable system operator offers on the cable programming or new services tier or on any premium channel.

Many manufacturers include A/B switches as a feature of their equipment. To the extent that the consumer is interested in the feature, they have the option to purchase equipment that will give them this capability. It would be unwise, however, to require all consumers to pay for the cost of the feature when the consumer may not want it. So long as the consumer choice exists – which it does – then the FCC should avoid mandating the choice on all manufactures and consumers.

D. Rigid Cable-Ready Regulations Will Stifle Innovation

Several parties argue that the Commission should adopt rules that establish what constitutes cable-ready digital television equipment.[16] Attempting to forge such a definition looks at the future through the lens of the piece of the home network that will evolve *least* quickly and hence will be the biggest constraint on efficiency. Rather, the

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[16] *See, e.g.*, Comments of CEMA at 19; Comments of NAB, Attachment G; Comments of Philips Electronics at 13.

focus should be on the operation of the network itself, and in particular on competition in the Navigation Devices that opens all aspects of the network to competition.

Circuit City thus views any attempts officially to define a single device – particularly, any display device – as "cable-ready" as inherently misleading and counter-productive. It would ultimately confuse consumers and stifle technology. Such an effort ignores the evolution of home networks and detracts from the sovereignty of consumers.

E. Claims Regarding Poor DTV Reception Are Overstated

As part of the transition to digital television, broadcasters have run numerous tests to determine the effectiveness of the delivery of their own digital signals. In order to complete these tests, the broadcasters deployed digital television receivers in the field. Based on reports in the trade press about these tests, some commenters are of the belief that equipment manufacturers have not developed digital television equipment that will allow consumers to experience clear reception of DTV signals.[17] For example, is has been suggested that DTV signals will be difficult to deliver to subscribers in urban settings because of contiguous channel interference. Circuit City agrees with the comments of CEMA and Harris Corp. that these preliminary tests are not indicative of how digital television will function in the future.[18]

Many of these tests were conducted with equipment and under transmission parameters that did not reflect real-world circumstances (*e.g.,* with reduced power levels, older equipment, etc.). Moreover, of the many tests that were conducted, the reports submitted by commenters reflect only those limited circumstances where problems arose

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[17] *See, e.g.*, Comments of Sinclair Broadcast Group, Inc.

[18] Comments of CEMA at 25-26; *See generally* Comments of Harris Corp.

and not the many other test circumstances where the digital signal was received as intended.

Circuit City is concerned about any potential obstacle to deployment of DTV, and acknowledges that the Commission should be as well. It is too early, however, to urge technical standards aimed at improving equipment performance based on incomplete or unrepresentative test data. As consumers obtain receivers, problems should be carefully monitored, and where necessary addressed on a systems basis.

III. Conclusion

With its Navigation Device decision, the Commission made great strides in creating an environment that promotes competition in the video programming distribution market by allowing consumers to choose where and how they acquire the equipment necessary to receive such programming. The Commission now has the opportunity to cement its commitment to competition by ensuring that digital television is introduced and allowed to flourish without any one market participant having the power to control how the public receives this new service.

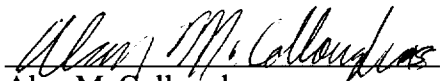
Circuit City urges the Commission to adopt rules that ensure that cable systems deliver broadcast DTV signals, including channel position protocols, without degradation or alteration. Cable companies should also be required to allow subscribers to use products and access services, such as program guides, offered by entities other than broadcasters or cable system operators.

The Commission should not attempt to guide industries toward the use of particular interfaces, architectures, or definitions of "cable-ready." These will change along with technology and will be driven by the development of home networks rather than the

functions of particular devices. The issue of copy control does, however, represent a potential impediment to free-market development of interfaces. Accordingly, the Commission should recommend to congressional oversight committees that the Congress address the subject through balanced legislation that takes into account the legitimate intellectual property expectations of both content proprietors and users.

Respectfully submitted,

CIRCUIT CITY STORES, INC.



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December 22, 1998

Certificate of Service

I, Jane Aguilard, a secretary with the law firm of McDermott, Will & Emery, hereby certify that true copies of the foregoing Reply Comments of Circuit City were served by hand on December 22, 1998, to the persons listed below.

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